REMARKS

The present invention relates to a process for topically cooling the spinal cord of a mammal.

In this Amendment, claims 1, 2, 4-6, 10, 12, 14, 15, 17 and 18 have been amended to recite a process for topically cooling a spinal cord across the dura mater or directly. Claims 3, 7-9, 11, 13, and 16 have been canceled. Claim 19 is new.

Support for the amendments to claims 1, 2, 4-6, 10, 12, 14, 15, 17 and 18 may be found in the specification, e.g., at page 8, lines 6-11, page 12, line 24 bridging to page 13, line 10, and page 15, lines 14-20. Support for new claim 19 may be found in the specification, e.g., at page 13, lines 16-20.

In view thereof, and for the reasons discussed below, Applicant respectfully submits that claims 1, 2, 4-6, and 10, 12, 14, 15, 17 and 18 meet all statutory requirements and are now in condition for allowance.

On page 2 of the Office Action, claims 1-18 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Noda et al (U.S. Patent No. 6,146,411).

Initially, Applicant notes that claims 3, 7-9, 11, 13, and 16 have been canceled, rendering the rejection moot as to these claims.

Applicant further submits that remaining claims 1, 2, 4-6, 10, 12, 14, 15, 17 and 18 have been amended to recite a process for topically cooling a spinal cord across the dura mater or directly.

Below, Applicant addresses in further detail the rejections of 35 U.S.C. § 102(b) based on Noda et al, based on which it is respectfully submitted that it will be seen that this rejection should now be withdrawn.

Noda et al discloses the following about what body portion would be cooled for the purposes of the invention of Noda et al and how the catheter would be placed therein.

1. Column 2, Line 38-55

"The selected body portion will usually be associated with a body conduit which conveys a body fluid to the selected body portion. Of particular interest are the organs of the body which are commonly nourished and maintained by a flow of blood in the arterial system. For example, a flow of blood is introduced to the brain through the carotid. Of course the temperature of this blood is usually at the normal body temperature.

By positioning an indwelling heat exchange catheter in the body conduit,

heat can be added to or removed from the body fluid to heat or cool the selected body portion. For example, the heat exchange catheter can be disposed in the carotid artery where the arterial blood flowing to the brain can be cooled. The flow of cooled blood to the brain reduces the temperature of the brain, thereby resulting in cerebral hypothermia." (emphasis added)

2. Column 4, Line 7-30

"As shown in FIG.1, an indwelling catheter 20 of the type adapted for insertion into the body of the patient 50 in a particular body cavity and is preferably any one of the type of indwelling catheters disclosed in co-pending U.S. Patent Application Serial No. 09/063,984 mentioned above and herein incorporated by reference in its entirety.... It will be appreciated that the target site, such as the brain of the patient 50, may be in direct contact with the inserted catheter 20, or it may be in thermal communication with the catheter via a fluid or tissue channel such that heat transfer between the target site and the catheter 20 occurs through the fluid or tissue. For example, it is contemplated that the catheter 20 be implanted antegrade in the blood supply to the brain, with the blood, cooled by the catheter, serving to alter the temperature of the brain and blood to thereby achieve the desired benefits of hypothermia such as reducing the permeability of the blood/brain barrier, inhibiting the release of neurotransmitters, inhibiting calcium-mediated effects. inhibiting brain edema and lowering intracranial pressure." (emphasis added)

Applicant submits that the invention in Noda et al is primarily designed to select "the brain" as the objective portion, to achieve the low temperature of the brain by placing the catheter in the carotid artery, cooling the blood, and the cool blood flow reaching the brain. Accordingly, Noda et al do not teach or suggest "inserting the catheter into the epidural cavity, the subdural cavity, or the subarachnoid cavity of the spinal cord, placing therein, thereby to cool the spinal cord across the dura mater or directly (without cooling the blood)."

In contrast to the Noda et al reference, the present invention now claimed in the application is concerned with the topical cooling of the spinal cord, and hence, is completely different from Noda et al.

Accordingly, Applicant respectfully submits that present claims 1, 2, 4-6, 10, 12, 14, 15, 17 and 18 are patentable over Noda et al, and withdrawal of the rejection is respectfully submitted to be proper.

In view of the above, reconsideration and allowance of claims 1, 2, 4-6, 10, 12, 14, 15, 17 and 18 are now believed to be in order, and such actions are hereby earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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